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Brief report

An exploration of comorbid depression among female victims of intimate partner violence with posttraumatic stress disorder

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Abstract

Background and methods: Factors contributing to posttraumatic stress disorder (PTSD) and comorbid major depression (MDD) were investigated among female victims of intimate partner violence (IPV). *Results*: High levels of PTSD (75% of the sample) and MDD (54% of the sample) were observed. Individuals with both PTSD and MDD reported significantly greater levels of PTSD and depression symptoms than individuals with either PTSD alone or without major psychopathology. Individuals with comorbid PTSD and MDD had more maladaptive depressogenic cognitive styles than individuals without PTSD. The three groups were comparable in terms of pre-abuse mental health, childhood trauma history, and relationship violence variables and injuries. Maladaptive schemas did not contribute to the identification of comorbidity caseness, whereas PTSD severity and prior trauma did. Psychological aggression by an abuser and PTSD severity accounted for 52% of the variance in depressive symptoms. *Limitations*: Cross-sectional design and lack of trauma-specific cognitive measures. *Conclusions*: The findings confirm that comorbid PTSD and MDD is common among IPV victims. The mechanisms that contribute to comorbid depression, however, are unclear, and prospective studies are necessary to delineate the roles that psychological abuse, PTSD severity and prior trauma experiences may have in the development of depression following IPV.

Keywords: PTSD; Depression; Schemas; Intimate partner violence; Comorbidity

1. Introduction

Depression is one of the most common comorbid conditions associated with posttraumatic stress disorder (PTSD), and is typically present in 30–50% of cases (Blanchard et al., 1998; Boudreaux et al., 1998; Kessler et al., 1995). Surprisingly, rates of comorbidity among victims of intimate partner violence (IPV) are often either not assessed, or reported. For example, Cascardi et al. (1999) observed that of their tabulated studies that assessed for PTSD or depression in a battered sample (15 studies), three examined both diagnoses in the same sample, but only one reported their co-occurrence (West et al., 1990). This study found a 30% comorbidity rate for battered women in a homeless shelter (cited in Cascardi et al., 1999). In their study of women seeking marital counseling who had experienced physical abuse in the past year, Cascardi et al. report that of those with PTSD, 56%

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had comorbid MDD. A similar rate (43%) was observed in victims of IPV recruited from domestic abuse agencies and community medical clinics (Stein and Kennedy, 2001).

Although correlates of depressive comorbidity have been studied in victims of IPV, studies to date have been limited by small sample size and the failure to address other relevant variables such as previous traumatic experiences and belief systems (schemas). The role of maladaptive schemas and cognitive vulnerability has traditionally been researched in the domain of affective disorders (e.g., Beck, 1987; Ingram et al., 1998), but similar approaches are being undertaken in explaining the phenomenon of posttraumatic stress (Ehlers and Clark, 2000). The present study had three primary aims. First, to examine the characteristics that might differentiate IPV victims with comorbid PTSD and MDD from those with PTSD alone and those without significant psychopathology. Second, to test the hypothesis that maladaptive schemas were predictive of comorbid caseness. Third, to investigate the variables that contribute to depressive symptomatology in the sample as a whole. Accordingly, we assessed participants for prior trauma history and mental health, the severity of abusive violence and relationship variables, cognitive styles, and current PTSD and MDD.

2. Method

2.1. Participants

Women who had experienced an incident of physical abuse in the 6 months prior to assessment were recruited from local domestic violence assistance agencies and shelters ($N = 142$). Those intoxicated or apparently psychotic at the time of interview were excluded from participation. The sample had the following characteristics: mean age of 34.41 years (SD = 8.22), average length of education 12.73 years (SD = 2.12), 59% African–American, 34% Caucasian, 8% from other ethnic backgrounds, 53% had a personal annual income less than US$10,000, 51% were living in shelters at the time of assessment, and 14% remained in the abusive relationship. Twenty-eight participants had neither PTSD nor MDD (20%), 38 (27%) had PTSD only (PTSD/No MDD) and 69 (49%) participants had comorbid PTSD and depression (PTSD/MDD). Seven participants (5%) met criteria for MDD in the absence of PTSD.

2.2. Procedures

The Clinician-Administered PTSD Scale (CAPS; Blake et al., 1995), and the Structured Interview for DSM-IV (SCID; First et al., 1996) were used to establish PTSD and MDD diagnosis, respectively. Audiotapes of interviews were randomly selected and reviewed by a faculty member blind to the interviewer's diagnosis. A kappa coefficient of 0.93 (97% interrater agreement) was obtained for PTSD diagnosis (based on 39 tapes), and a kappa coefficient of 1.00 (100% agreement) was obtained for MDD diagnosis (based on 37 tapes).

A structured interview was used to obtain information regarding demographics, details of the domestic abuse, prior mental health and trauma history, and included four standardized measures: the Behavior and Symptom Identification Scale (BASIS-32; Eisen et al., 1994) to determine pre-abuse functioning; the Conflict Tactics Scale-2 (CTS-2; Straus et al., 1996) to assess the frequency and severity of physical assault, injury, sexual abuse, and psychological aggression in the relationship (items were added to assess sexual coercion); the Sexual Abuse Exposure Questionnaire (SAEQ; Rowan et al., 1994) for childhood and adulthood events (coded dichotomously); and the Assessing Environments-III-Physical Punishment Scale (AE-III-PP; Berger et al., 1988) which measures a range of childhood physical discipline events. The number of times participants had been a victim of an interpersonal crime in adulthood and childhood (e.g., physical assault, robbery) was determined. For crimes in adulthood, this frequency score was recoded to achieve a normal distribution (0 = never, 1 = 1–5 times, 2 = more than 6 times). Childhood crime experiences were reduced to a dichotomy (absent/present).

Participants completed the Posttraumatic Stress Diagnostic Scale (PDS; Foa, 1995), and the Beck Depression Inventory (BDI-II; Beck et al., 1996). The Schema Questionnaire (SQ; Young, 1990), a self-report inventory of early maladaptive schemas, was administered. For the current study, three subscales

were used which in terms of face validity appeared to best encompass maladaptive self-worth and depressogenic beliefs—Defectiveness/Shame (DS), Social Undesirability (SU), and Failure (FA).

3. Results

Screening analyses (MANOVAs, ANOVAs, χ^2) indicated that the groups were generally comparable

Table 1
Comparison between the No PTSD/No MDD, PTSD/No MDD and PTSD/MDD groups on prior trauma, abuse and symptom measures

Variables	No PTSD/No MDD *M* (SD) (*N* = 28)	PTSD/No MDD *M* (SD) (*N* = 38)	PTSD/MDD *M* (SD) (*N* = 69)	Univariate *F* or χ^2
Trauma history				
SAEQ: child coercive (%)	18	45	39	$\chi^2(2, N=135)=5.53$*
SAEQ: child rape (%)	29	37	35	$\chi^2(2, N=135)=0.52$
SAEQ: adult coercive (%)	32	40	36	$\chi^2(2, N=135)=0.38$
SAEQ: adult rape (%)	43[a]	24[a]	49[b]	$\chi^2(2, N=135)=6.71$**
AE-III-PP	3.39 (2.10)	4.21 (2.70)	3.93 (2.60)	$F(2, 132)=0.85$
Number of adult crimes	2.50 (2.13)	2.42 (2.24)	2.51 (2.18)	$F(2, 132)=0.02$
Child crime exposure (%)	39	42	44	$\chi^2(2, N=135)=0.14$
BASIS: self/others	0.92 (0.83)	1.31 (0.92)	1.09 (0.94)	$F(2, 127)=1.48$
BASIS: depression/anxiety	1.00 (1.18)	1.28 (1.02)	1.24 (1.08)	$F(2, 127)=0.59$
BASIS: daily living skills	0.84 (1.05)	1.08 (0.92)	0.86 (0.91)	$F(2, 127)=0.80$
BASIS: impulsive/addictive	0.71 (1.09)	0.65 (0.68)	0.75 (0.72)	$F(2, 127)=0.18$
BASIS: psychosis	0.36 (0.79)	0.52 (0.64)	0.48 (0.73)	$F(2, 127)=0.42$
Abusive relationship variables				
Length of relationship (years)	5.98 (5.54)	6.72 (6.77)	6.92 (5.69)	$F(2, 129)=0.25$
Length of abuse (years)	2.80 (3.96)	4.82 (6.07)	5.67 (5.59)	$F(2, 132)=2.77$*
Time since left relationship (days)[i,ii]	62.83 (60.55)	124.57 (266.58)	179.03 (711.79)	$F(2, 113)=0.40$
Time since last incident of physical abuse (days)	48.64 (39.28)	48.63 (33.93)	42.41 (36.36)	$F(2, 132)=0.50$
CTS-2: physical aggression	53.36 (56.79)	70.03 (63.57)	88.10 (72.47)	$F(2, 130)=2.84$*
CTS-2: sexual aggression	9.21 (13.38)	11.82 (17.58)	12.91 (16.52)	$F(2, 130)=0.51$
CTS-2: psychological aggression	82.61[a] (43.41)	99.76[a] (44.81)	115.79[b] (46.71)	$F(2, 130)=5.51$***
CTS-2: injury	17.50 (23.13)	20.82 (20.51)	28.64 (26.45)	$F(2, 130)=2.57$*
In shelter (%)	54	47	52	$\chi^2(2, N=135)=0.31$
Left relationship (%)	86	82	88	$\chi^2(2, N=135)=0.95$
Psychopathology measures				
SQ: defectiveness/shame	2.29[a] (1.26)	2.67[a] (0.99)	2.85[b] (1.35)	$F(2, 125)=3.43$**
SQ: social undesirability	2.18[a] (1.35)	2.89[a] (1.08)	2.91[b] (1.29)	$F(2, 125)=4.66$**
SQ: failure	2.27[a] (1.50)	2.31[a] (1.35)	3.00[b] (1.56)	$F(2, 125)=3.58$**
PDS	19.67[a] (13.50)	27.08[b] (8.71)	34.37[c] (8.49)	$F(2, 128)=23.20$****
BDI-II	15.21[a] (9.21)	26.62[b] (8.58)	32.22[c] (11.11)	$F(2, 130)=28.28$****
CAPS	30.96[a] (17.27)	61.95[b] (13.59)	81.64[c] (16.24)	$F(2, 132)=104.29$****

SAEQ = Sexual Abuse Exposure Questionnaire; AE-III-PP = Assessing Environments-III-Physical Punishment Scale; BASIS-32 = Behavior and Symptom Identification Scale; CTS-2 = Conflict Tactics Scale-2; SQ = Schema Questionnaire; PDS = Posttraumatic Stress Diagnostic Scale; BDI-II = Beck Depression Inventory-II; CAPS = Clinician-Administered PTSD Scale (frequency + intensity score).
Degrees of freedom vary due to missing data.

[a] Means with different superscripts are significantly different from each other.

* $p < 0.10$.

** $p < 0.05$.

*** $p < 0.01$.

**** $p < 0.001$.

[i] Does not include women still in the relationship.

[ii] Three women reported leaving the relationship 4, 7 and 14 years previously (contributing to the large SD), but had continued contact with their abuser.

on demographics, pre-abuse mental health, childhood trauma history, and abusive relationship variables (Table 1). The PTSD/MDD group were significantly more likely to have suffered an adult rape (outside of the abusive relationship) than the PTSD/No MDD group, and reported greater psychological aggression (CTS-2) than either the No PTSD/No MDD or PTSD/No MDD groups. In terms of psychopathology, the PTSD/MDD group reported significantly more symptoms on the PDS, CAPS and BDI-II than the PTSD/No MDD group who in turn reported higher scores than No PTSD/No MDD participants. The PTSD/MDD group also endorsed more maladaptive beliefs than the other two groups on the three subscales of the SQ.

Logistic regression was used to test whether maladaptive schemas would predict comorbidity, with variables being entered as follows: presence of adult rapes on the first step, maladaptive schemas on the second step (simultaneously), followed by psychological aggression (CTS-2) and PTSD severity (PDS) on the third and fourth steps, respectively. Only previous adult rape and PTSD severity made significant contributions (final step, $\chi^2[6, 107] = 24.02$, $p < 0.01$). The overall model had good sensitivity (86%), but only modest specificity (49%).

Finally, multiple hierarchical regression was conducted to determine predictors of depressive symptoms (BDI-II) for the whole sample using the variables identified in the previous analyses that appeared to differentiate the three groups. As indicated in Table 2, psychological aggression and PTSD severity were significant predictors of self-reported levels of depression, with the contribution of the Social Undesirability schema being a nonsignificant trend. The overall model accounted for approximately 52% of the variance in depressive symptoms.

4. Discussion

We found high levels of psychopathology in this sample of victims of IPV—75% and 54% meeting criteria for PTSD and MDD, respectively. Partially consistent with our predictions, individuals in the PTSD/MDD group evidenced more maladaptive schemas than individuals without PTSD. Logistic regression analysis suggested that maladaptive schemas

Table 2
Summary of hierarchical regression analysis of depression symptoms (BDI-II): Prior trauma, psychological aggression, schemas, and PTSD severity as predictor variables

Predictors	B	SE B	β	ΔR^2	Adjusted R^2	Multiple R	Overall F
Step 1							
SAEQ: adult rape	−2.83	2.16	−0.12	0.01	0.01	0.01	$F(1, 122) = 1.73$
Step 2							
CTS-2: physical aggression	0.07	0.02	0.29***	0.08	0.08	0.10	$F(2, 121) = 6.35$**
Step 3							
SQ: defectiveness/shame	−0.01	1.17	−0.00				
SQ: social undesirability	2.54	1.41	0.27*				
SQ: failure	1.66	1.08	0.21	0.22	0.28	0.31	$F(5, 118) = 10.75$***
Step 4							
PDS	0.56	0.08	0.54***	0.21	0.50	0.52	$F(6, 117) = 21.45$***

SAEQ = Sexual Abuse Exposure Questionnaire; CTS-2 = Conflict Tactics Scale-2; SQ = Schema Questionnaire; PDS = Posttraumatic Stress Diagnostic Scale; BDI-II = Beck Depression Inventory-II.
Degrees of freedom vary due to missing data.
*$p < 0.10$.
**$p < 0.01$.
***$p < 0.001$.

were not helpful in the identification of comorbid caseness, whereas prior adult rape and PTSD severity were. The observation that psychological aggression was significantly related to depressive symptoms is consistent with previous literature (Arias and Pape, 1999; Street and Arias, 2001), and is not surprising given its probable effect on an individual's sense of self, particularly beliefs regarding self-esteem, competence, and worth. Our finding of PTSD and depression symptom differences between groups is in contrast to previous research (Cascardi et al., 1999; Stein and Kennedy, 2001). This discrepancy is probably due to adequate power in the present study and severity of traumatization in the current sample.

Although the schemas measured in the present study did not predict comorbidity caseness, we still believe that cognitions and schemas may play an important role in understanding why depression develops in the context of PTSD. First, beliefs that are directly related to the trauma may be more critical than a general negative cognitive style (the latter being measured in the present study). Evidence from the PTSD literature (e.g., Dunmore et al., 1999) suggests that maladaptive interpretation of PTSD symptoms is predictive of the maintenance of the disorder. Second, our finding that psychological abuse was predictive of depressive symptoms, coupled with the observation by Stein and Kennedy (2001) that level of physical aggression and injuries was not related to comorbidity in their sample of IPV victims, suggests that factors other than physical/objective variables are implicated. An argument could be made that depression precedes dysfunctional schemas. There is, however, evidence that cognitive vulnerability to depression can exist, manifesting itself before the onset of depression (see Alloy et al., 1999). Clearly prospective study of trauma populations will address this issue further.

We recognize the limitations of the study. The current findings are based upon a trauma-specific, female sample, assessed at one time point. Whether the findings are applicable to other trauma populations and men is untested. We also concede that reports of pre-abuse functioning may not necessarily be accurate. Strengths of the study include its sample size, non-exclusionary study criteria, and methodologically rigorous assessment measures and procedures.

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